

STAT

DP-4552

COPY 1 OF 1

June 29, 1959

Dear Dan:

The enclosed Changed Purchase Orders are amendments which we have made to existing purchase orders and are your copies.

The one to General Electric gives them half of the overrun funds as it is my intention not to give them the total overrun until July.

Very truly yours,

JBL:ej

Encl. - Rev. 6/6/59, P.O. 100-8
Amend. #3, P.O. 100-13

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LOCKHEED AIRCRAFT CORPORATION**MISSILES and SPACE DIVISION****Sunnyvale, California****CHANGED PURCHASE ORDER**DATE **1/2/59**

PAGE

OF

PURCHASE ORDER NUMBER

Rev. **6/6/59****100-8**

DATE REQUIRED AT DESTINATION

MODEL

WORK ORDER REF.

REQUEST NO.

4-5101**B 1085, 49196**

CONTRACT

Government Contract

PREFERENCE RATING

F. O. B.

Philadelphia, Pa

SHIPPING POINT

VIA

Air-Ex or as specified**As Required**

General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

SHIP TO: LOCKHEED AIRCRAFT CORPORATION

DELIVER TO

ACCOUNT OR W. O. CHARGE

TERMS

Net 30

See Paragraph
"Shipping, Pack-
ing, Crating"

MISSILES and SPACE DIVISION
1122 JAGELS ROAD
SUNNYVALE, CALIFORNIA

FOR RESALE? **Yes**

QUANTITY

UNIT

DESCRIPTION

PRICE

THIS IS A COMPLETELY REVISED ORDER**Amendment #3****SCHEDULE****WORK STATEMENT:**

General Electric shall provide the necessary personnel, material, facilities, tooling and equipment to design, develop, manufacture and test reconnaissance recovery vehicles in accordance with Lockheed Aircraft Corporation, Missiles & Space Division, Specification SP-128, Rev. No. 1, ** dated 3 October 1958, and Specification ARV-1, *** dated 19 December 1958.

A1 and A3 Certifications required**This Order Supersedes and Cancels All Previous Orders Under This Same Number**

**SEE PARAGRAPH
"FUNDS AUTHORIZED"**

CERTIFICATIONS

The following certifications are required if indicated above:

- A1. Materials and/or parts furnished on this order have been manufactured in accordance with all applicable instructions and specifications.
- A2. (On Packing Sheet) Materials and/or parts furnished on this order have been manufactured in accordance with all applicable instructions and specifications. Physical and Chemical data pertaining to this order are available for inspection.
- A3. (On Invoice) We hereby certify that these goods were produced in compliance with all applicable requirements of Sections 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.

G. DO NOT DECLARE VALUE on express or air shipments. Do NOT insure parcel post if Buyer's risk. Obtain Parcel Post receipts. AIR MAIL COPY OF BILL OF LADING, EXPRESS RECEIPT, OR AIRBILL TO OUR TRAFFIC DEPARTMENT IMMEDIATELY.

H. Load, block and brace rail shipments per latest loading rules of Association of American Railroads.

I. RADIOACTIVE MATERIAL—If the material covered by this order contains radioactive material in excess of .1 millicuries, vendor shall show the following on all Packing Sheets "Radioactive Material" Isotope _____ Amount _____

THIS ORDER CONSISTS OF THE NUMBER OF PAGES SPECIFIED ABOVE, AND IS SUBJECT TO THE ABOVE INSTRUCTIONS AND THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE HEREOF.

- B. Please sign and return acknowledgment copies immediately.
- C. Invoice in triplicate, showing purchase order, item, part and Government contract numbers, if any, on all copies, and mark one "Original."
- D. Taxes payable by Buyer to Seller must be itemized on invoice.
- E. Packing List must show Lockheed Part, Purchase Order and Item numbers. MARK PACKING LIST AND INVOICE COVERING FINAL SHIPMENT "ORDER COMPLETED."
- F. Include packing list in each shipment. Show bill of lading or express receipt number and purchase order number on all packages. Mark each container to show number of containers in shipment (such as 1 of 3). Attach packing list to number one container. Show purchase order number on all paper.

LOCKHEED AIRCRAFT CORPORATION**Missiles and Space Division**

By _____

Authorized Purchasing Representative

LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDER

DAY 1/2/59

Rev. 6/6/59

PAGE

2

OF

7

NUMBER

100-8

General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

REQUEST NO.
B 1085, 49196

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
			<p>Cancel all Mark II, Mod II, parachutes and in lieu thereof direct all efforts to the production of Mark II, Mod. III, parachutes.</p> <p>General Electric shall fabricate and deliver two (2) forebody dollies.</p> <p>General Electric shall fine-gold plate to 10 micro inches eighteen (18) development and deliverable reconnaissance recovery vehicles.</p> <p>Certain agreements were reached between General Electric MSVD and Lockheed MSD on 12 December 1958 which are attached hereto as Addendum No. 1 and made a part hereof.</p> <p>** - Specification SP-128, Rev. No. 1, dated 3 October 1958, is applicable in its entirety with the following exceptions and modifications:</p> <p>(a) Item 2.1 - should be amended to read:</p> <p>LMSD 2916, General Environmental Specification for the WS-117L Equipment Program II with deviations as agreed to between LMSD and the sub-contractor. The deviations used in the definitization of the SARV program and effective as of 9/19/58 shall be applicable to the program.</p> <p>(b) Item 2.2 - should refer to the following:</p> <p>ARV-1 Systems Requirement Specification for the Advanced Recovery Vehicle and associated ground support equipment - dated 19 December 1958.</p> <p>(c) Item 2.3 should read as follows:</p> <p>LMSD 6020C - Statement of Work, Biomedical Recovery Capsule, where applicable. The deviations used in the definitization of the SARV program, and effective as of 9/19/58, shall be applicable to this program.</p> <p>(d) On page 4, Table I, Ground Support Equipment.</p> <p>Items 1 and 2, R/V Checkout Unit and R/V Simulator, respectively, should both be reduced by one (1) unit from three (3) of each to two (2) of each deliverable units.</p>	

LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDERDATE 1/2/59
Rev. 6/6/59PAGE
3OF
7NUMBER
100-8General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

REQUEST NO.

B 1085, 49196

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE						
			Further, add Items 8 and 9.							
			<table><thead><tr><th><u>Description</u></th><th><u>Quantity</u></th></tr></thead><tbody><tr><td>8. R/V Checkout Unit Panels, Mark II</td><td>2</td></tr><tr><td>9. Dynamic Balance Unit</td><td>1</td></tr></tbody></table>	<u>Description</u>	<u>Quantity</u>	8. R/V Checkout Unit Panels, Mark II	2	9. Dynamic Balance Unit	1	
<u>Description</u>	<u>Quantity</u>									
8. R/V Checkout Unit Panels, Mark II	2									
9. Dynamic Balance Unit	1									
			(e) The spare units which are indicated in the delivery schedule attached to SP-128, Rev. No. 1, should be reduced from two (2) to (1), which therefore, reduces the requirement from fourteen (14) to thirteen (13) flight units or flight unit spares, and is represented by the deletion of Use No. 114, formerly scheduled to be delivered on August 4, 1959.							
			*** Specification ARV-1, dated 19 December 1958, is applicable in its entirety with the following corrections:							
			(a) Page 2 LMSD 2916, Revision dated April 30, 1958, should read: "as amended by agreement on 11/19/58."							
			(b) Page 5, paragraph 3.6.4, last sentence . . . "insullation" should be "installation."							
			(c) Page 6, Paragraph 3.6.7.1, last sentence . . . "versed" should be "reused."							
			(d) Page 7, paragraph 3.6.7.5, last sentence . . . "excited" should be "exerted."							
			(e) Page 15, Figure 1 - does not show any drawing. This drawing should be the same as Figure 1 in N.C.S. 1500.							
			<u>REPORTS</u>							
			1. An informal monthly progress report, similar to an ozalid-type reproduction, shall be submitted on or before the 15th of each calendar month, reporting on the progress during the preceding calendar month.							
			2. A brief, informal monthly management report shall be submitted on or before the 15th of each calendar month, giving fund status including monthly expenditures.							

LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDER

DATE 1/2/59	PAGE 4	OF 7	NUMBER 100-8
Rev. 6/6/59			

General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

REQUEST NO.
B 1085, 49196

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE																												
			<p><u>DELIVERY:</u></p> <p>Re-entry capsules shall be delivered in accordance with the following schedule:</p> <table><tr><th><u>USE NO.</u></th><th><u>DELIVERY DATE</u></th></tr><tr><td>101</td><td>February 9, 1959</td></tr><tr><td>102</td><td>February 16, 1959</td></tr><tr><td>103</td><td>February 26, 1959</td></tr><tr><td>104</td><td>March 11, 1959</td></tr><tr><td>105</td><td>March 24, 1959</td></tr><tr><td>106</td><td>April 6, 1959</td></tr><tr><td>107</td><td>April 20, 1959</td></tr><tr><td>108</td><td>May 4, 1959</td></tr><tr><td>109</td><td>May 18, 1959</td></tr><tr><td>110</td><td>June 1, 1959</td></tr><tr><td>111</td><td>June 15, 1959</td></tr><tr><td>112</td><td>June 29, 1959</td></tr><tr><td>113</td><td>July 13, 1959</td></tr></table> <p><u>Reports</u></p> <p>As indicated in Work Statement.</p> <p><u>LOCKHEED FURNISHED MATERIAL:</u></p> <p>Lockheed Aircraft Corporation, Missiles & Space Division, shall supply, or cause to be supplied, nineteen (19) cassettes to General Electric Company for performance hereunder.</p> <p><u>SHIPPING, PACKING & CRATING:</u></p> <p>All shipments shall be packed and crated in accordance with applicable specifications for the protection of delicate instrumentation in transit or in accordance with all carriers' tariffs. General Electric shall be responsible for the delivery of all shipments to the carriers' docks and forward them collect via bonded air freight, or as otherwise directed, to the address to be supplied by </p>	<u>USE NO.</u>	<u>DELIVERY DATE</u>	101	February 9, 1959	102	February 16, 1959	103	February 26, 1959	104	March 11, 1959	105	March 24, 1959	106	April 6, 1959	107	April 20, 1959	108	May 4, 1959	109	May 18, 1959	110	June 1, 1959	111	June 15, 1959	112	June 29, 1959	113	July 13, 1959	
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LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDER

DATE 1/2/59 Rev. 6/6/59	PAGE 5	OF 7	NUMBER 100-8
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General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

REQUEST NO.
B 1085, 49196

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE						
			<p><u>FUNDS AUTHORIZED</u></p> <p>The total anticipated cost for the performance of the Work Statement hereunder is as follows:</p> <table><tr><td>Total Estimated Cost</td><td>\$4,508,800.00*</td></tr><tr><td>Fixed Fee</td><td>267,508.00</td></tr><tr><td>Total Cost</td><td><u>\$4,776,308.00</u></td></tr></table> <p>* - Plant arrangement in an amount not to exceed \$10,000.00 for the provision of special security procedures inherent in the performance of this task is included herein as allowable charges under this contract.</p> <p><u>USE OF GOVERNMENT FACILITIES AND EQUIPMENT</u></p> <p>It is understood that the cost proposal prepared to cover all work hereunder is contingent upon the use of Government facilities equipment items being available to General Electric under Facility Contracts Nos. AF 33(600)-32371 and DA-36-034-ORD-2581 on a "no charge for use on a non-interference basis."</p> <p><u>CORRESPONDENCE:</u></p> <p>All correspondence, including reports, invoices, bills of material, etc., which is transmitted via U. S. Government mail shall be addressed to Palo Alto, California.</p> <p><u>SUPERSESSION OF LETTER SUBCONTRACT:</u></p> <p>This definitive contract supersedes and cancels in its entirety the letter subcontract of intent, dated April 29, 1958, as subsequently amended. All costs which have been incurred under the letter subcontract of intent in anticipation of this definitized contract, and which costs would have been considered allowable subsequent to the issuance hereof, shall be considered allowable hereunder, subject to the final acceptance by the Contracting Officer as allowable costs.</p>	Total Estimated Cost	\$4,508,800.00*	Fixed Fee	267,508.00	Total Cost	<u>\$4,776,308.00</u>	
Total Estimated Cost	\$4,508,800.00*									
Fixed Fee	267,508.00									
Total Cost	<u>\$4,776,308.00</u>									

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LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDER

DATE 1/2/59	PAGE 6	OF 7	NUMBER 100-8
Rev. 6/6/59			

General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

REQUEST NO.

B 1085, 49196

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
STAT			<u>OVERTIME:</u>	
			Authorization is hereby given for the use of overtime up to and including 25% of direct labor charges in performance of work hereunder as necessary to maintain the required delivery schedule. It is mandatory, however, that an advance estimate of anticipated overtime in any given month be supplied to through the correspondence channels indicated above at least one week in advance of the calendar month for which the estimate is prepared.	
			<u>PROHIBITION AGAINST ASSIGNMENT</u>	
			Notwithstanding any other provisions of this subcontract, the Contractor shall not transfer, pledge or otherwise assign this contract, or any interest therein or any claim arising hereunder to any party or parties, bank, trust company or other financing institution, without first receiving the written authorization of Lockheed Aircraft Corporation.	
			<u>SPECIAL SECURITY RESTRICTIONS</u>	
			The Contractor shall not reveal (i) the specific nature or any details of the work being performed hereunder or (ii) any information whatsoever with respect to the department of the Government sponsoring this contract and the work thereunder except as the Contractor is directed or permitted to reveal such information by Lockheed and/or the Contracting Officer or by his duly authorized representative for security matters, and notwithstanding any clause or section of this contract to the contrary, the Contractor shall not interpret any clause or section of this contract as requiring or permitting divulgence of such information to any person, public or private, or to any officer or department of the Government without the express consent of the Contracting Officer or his duly authorized representative for security matters.	

LOCKHEED AIRCRAFT CORPORATION**MISSILE SYSTEMS DIVISION**

Sunnyvale, California

CHANGED PURCHASE ORDER

DATE	1/2/59	PAGE	OF	NUMBER
	Rev. 6/6/59	7	7	100-8

REQUEST NO.

B 1085, 49196

General Electric Company
3198 Chestnut Street
Philadelphia, Pennsylvania

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
STAT			<u>COMMUNICATION WITH CONTRACTING OFFICER:</u>	
			<p>In all instances within the schedule or terms and conditions of this contract where Contractor is required to contact, communicate with, or direct documents, reports, invoices, etc., to or through the Contracting Officer, Contractor is hereby directed to refer all such matters in connection therewith to Lockheed, attention [] or disposition instructions or forwarding to the Contracting Officer, if required, with the exception of those matters dealing with the maintenance of proper security. Under no condition is Contractor to contact Contracting Officer or his duly appointed representative(s) other than on matters of security without the prior approval of Lockheed.</p> <p><u>TERMS AND CONDITIONS</u></p> <p>The terms and conditions attached hereto and made a part hereof are applicable to this purchase order, superseding and cancelling those terms and conditions on the reverse side of Page 1 of this purchase order. Article 33, entitled "Renegotiation," is deleted in its entirety and is not applicable hereunder. If any conflict exists or is determined to exist between the contents of any paragraph or sentence delineated on the face of this purchase order and the terms and conditions attached hereto, those typed on the face of this purchase order shall over-ride.</p>	

ADDENDUM I

Additional agreements, modifications, clarifications, additions and/or deletions to various guide line documents applicable hereunder:

On 12 December 1958, it was agreed between [] General Electric MSVD, and [] Lockheed Missiles and Space Division (the then Lockheed Missile Systems Division) that the following would apply to the work performed under Purchase Order No. 100-8:

Agreement has been reached that the following exceptions to the applicable LMSD documents existed at the negotiation of 26-27 September 1958 and were included in the General Electric proposal of 13 September 1958, confirmed by General Electric letter 7 October 1958:

1. LMSD 6020C dated 19 September 1958

- A. Schedule - General Electric will accept the LMSD schedule - Eng. schedule Plan 21700.20 Issue No. 2 dated 17 September 1958 in lieu of schedule proposed in General Electric letter dated 13 September 1958.
- B. G.S.E. - Table 1 - It is assumed that the list agreed upon at the negotiation of 26-27 September 1958 and confirmed by General Electric letter dated 13 October 1958 is acceptable.

2. LMSD 2950 Revision 3 dated 19 September 1958

- A. Para. 3.7.3.3. - Squibs and Other Pyrotechnic Devices
General Electric has not provided for meeting this requirement in its entirety. Proposal was based upon Para. 3.7.3.3. of General Electric spec. NCS 1500 dated 12 September 1958.
- B. Para 3.7.8 - Recovery System
Relative to parachute design, General Electric proposed that the following apply:

Air Snatch Loads - The loads applied to the parachute during air snatch shall not exceed 5 g's.

3. LMSD 2916 dated 24 March 1958 Revision 30 April 1958

A. Page 4 - Paragraph - 3.2.1.2.5

Other Atmospheric Elements

Requirement - Paragraph 3.2.1.2.5 states that: "Any of the probable combinations of the following atmospheric elements: smoke, wind, ozone, sand and dust, sunshine, salt and corrosive atmospheres."

Deviation - Full exception is taken to Specification LMSD 2916 on atmospheric elements.

Reason - The program permits no time to initiate a test program to determine if the equipment can operate in any of the probable combinations of the following atmospheric elements: smoke, wind, ozone, sand and dust, sunshine, salt and corrosive atmospheres.

B. Page 5 - Paragraph - 3.2.2.5.2

Shock (Given in Table III)

Requirement - As given in Table III of Specification LMSD 2916.

Deviation - Full exception is taken to Specification LMSD 2916 on Shock.

Reason - GE experience indicates that at our location no shock exists either at launch or main engine cut-off. Therefore, this requirement will not be observed.

C. Page 5 - Paragraph 3.2.2.5.3

Vibration

Requirements - Paragraph 3.2.2.5.3 states that: "Vibration given in Table III is a sinusoidal sweep applied at a constant octave sweep rate which progresses from the lower frequency limit to the upper frequency limit in one-half (1/2) hour. Equipments having resonant frequencies between 1 cps and 15 cps shall be capable of withstanding sinusoidal vibration at such resonant frequencies for a period of fifteen minutes at an amplitude of .5 inches (peak-to-peak).

Deviation - To insure that components can survive any possible sinusoidal inputs the vibration test levels will be:

5 cps to 13 cps	$\frac{1}{2}$ inch peak-to-peak
13 cps to 2000 cps	5 g peak

and the frequency shall be swept at a constant octave sweep rate once from 5 to 2000 cps in fifteen minutes. Except for those items which operate only during the orbital phase this means a total of 30 minutes. 15 non-operative and 15 operative, of excitation, in each direction.

Reason: The levels indicated in Specification LMSD 2916, paragraph 3.2.2.5.3 for our location are excessive. Measurements made on the IIA Booster frame at comparable stations indicate that little if any sinusoidal excitation exists and that the level of vibration through reaches at most a value of 1.5 g rms in the frequency band of 0 cps to 2000 cps (at launch and Max. g).

D. Page 5 - Paragraph - 3.2.2.5.4

White Noise Vibration

Requirement - Paragraph 3.2.2.5.4 states that: "Random Gaussian vibration of 15 to 2000 cps bandwidth for a period of 5 minutes at the maximum level and 10 minutes at the effective level for the values indicates in Table V."

Deviation - Full exception is taken to Specification LMSD 2916 on White Noise Vibration.

Reason - For the location of SARV vehicle, data from flights on the I&A Boosts indicate that the spectrum peak maximums are in the range $.001g^2/cps$ to $.004g^2/cps$. The level of the spectrum in general is in the region of $.003g^2/cps$. The random test that accounts for the major portion of the excitation in a conservative fashion then will be a constant power spectral density of $.0012/cps$ for fifteen minutes. The possibility of semi-discrete frequency peaks higher than above occurring has been more than adequately covered by the single frequency sinusoidal test.

E. Page 15 - 27 Sections 3.3 and 4.0

Requirement - Sections 3.3 and 4.0 specifies the test conditions and tests to be performed on all equipment.

Deviation - Sections 3.3 and 4.0 shall not be applicable. Refer to attachments 1 and 2, following this deviation which shall supersede the information in Sections 3.3 and 4.0.

Reason - The test conditions and tests to be performed on SARV equipment as specified in attachments 1 and 2 are standard to General Electric Company and are more realistic of the conditions expected.

/s/

[Redacted Signature]

General Electric, MSVD

/s/

[Redacted Signature]

Lockheed Missile System
Division